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ON

CONGESTIVE PNEUMONIA,

CONSEQUENT UPON SURGICAL OPERATIONS,
DISEASES AND INJURIES.

By JOHN E. ERICHSEN, Esq.

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READ JANUARY 24TH, 1843.

NOTWITHSTANDING the care with which the diseases of the lungs have, of late years, been studied, there is one form of inflammation of these organs that has escaped, with but few exceptions,* the notice of writers on this subject; but which, from the frequency of its occurrence, and the latent and insidious character of its symptoms, peculiarly de-

* The only writer, with whose works I am acquainted, that enters to any length upon this subject is Sir C. Bell; who in his "Surgical Observations," devotes a "Report" to its consideration. Guthrie, in his Treatise on Gunshot Wounds, speaks of Pneumonia as a cause of death after operations, more particularly secondary amputations. Dr. Forbes, in his translation of Laennec's work on the Diseases of the Chest, mentions the subject in a note, and Dr. C. J. B. Williams, in the article "Pneumonia," Library of Practical Medicine, alludes to it as a variety of that disease.

serves the attention of the surgeon. I mean that variety of Pneumonia, which occurs in connection with, or as a consequence of, surgical operations and injuries, and which is not dependent upon the absorption of pus.

In a Table* appended to this paper, will be found an account of the condition of the lungs in sixty-two cases of death after surgical operations and injuries. Before proceeding to the analysis of this, it may be necessary, in order to avoid all misconception, to point out those circumstances that have been considered to serve as distinctive signs between Pneumonia, properly so called, and mere passive congestion of the lungs.

The anatomical characters of the first stage of inflammation of the lungs, more especially when that disease assumes an asthenic type, are in all respects similar to those of mere passive congestion of those organs. The lungs, in both cases, being heavy from sanguineous engorgement, presenting externally a livid violet hue, mottled with spots of a dark red, or purple colour, and preserving the impression of the finger, as if œdematous. When pressed upon, they will be found to be more compact and solid than natural, scarcely crepitating. When cut into, a frothy, spumous, reddish fluid

* I may mention that the cases contained in this Table have been calculated indiscriminately, and not selected, from the records of University College Hospital, that very many of them fell under my own observation, and that all deaths occasioned by burns, which are attended by peculiar lesions, have been omitted.

exudes in considerable quantity, and the pulmonary tissue will, at the same time, be found to be altered in its consistence, breaking down readily under even moderate pressure of the finger into a grumous pulpy mass. This friability of the tissue of the lung has been, by many, supposed only to occur in those congestions of that organ which were of an inflammatory nature, but it has been proved by the observations of Andral, and others, to be of no value as a diagnostic mark in distinguishing these from the mechanical engorgement that frequently supervenes but a few hours before death, and which, when it occurs, is probably the immediate cause of that fatal event. In order, therefore, to avoid all source of fallacy by confounding together these two conditions, that so closely resemble one another in their anatomical character, though differing so materially in their essential nature, I have comprised under the term *Pneumonia*, only those cases in which either one lung alone was affected, or else, in which some other possible sign of inflammatory action was manifested in the cavity of the thorax beyond a merely congested or softened condition of these organs, such as solidification of their tissue, whether hepatization or splenization of it, the effusion of recent lymph or serum into the pleural sacs, or marked evidences of inflammation of the bronchial mucous membrane.

In accordance, then, with this distinction, between an inflammatory and merely congested condition of the lungs, between an active and passive hyperemy

of their tissue, the sixty-two cases in the Table will be found to arrange themselves into four classes.

1st.—Those in which there were evident signs of Pneumonia, as evinced either by the diseased condition being confined to one lung, by its having advanced to solidification, or by the co-existence of marks of inflammatory action in the pleuræ or bronchial mucous membrane. These cases are twenty-eight in number, or nearly one-half of the total amount of deaths.

2nd.—Doubtful cases—in which the lungs presented the characters that are common to the first stage of Pneumonia and to passive congestion, without there being any collateral circumstances by which the diagnosis could be more clearly established. These are eleven in number.

3rd.—Cases in which the lungs were found more or less diseased, but not inflamed or congested. These are nine in number.

4th.—Cases in which the lungs were found healthy. These are fourteen in number.*

Thus it will be seen that on examining the lungs of sixty-two individuals who had died from various surgical diseases, operations and injuries, there were found marked evidences of Pneumonia in twenty-eight, or forty-five and one-tenth per cent. of the whole. Of the remainder it was doubtful in eleven whether the congestion that was met with was of an inflammatory

* It is probable that cadaveric congestion of the lungs may have existed in many of the cases in this class, but as no actual disease was found, they are entered as being healthy.

or passive character. In nine others, the lungs were more or less diseased, being tuberculous in three cases, bronchitic in four, œdematous in one, and gorged with fluid blood in another; and in fourteen cases only, or little less than a quarter of the total amount—22·5 per cent.—were these organs healthy.

Of the twenty-eight cases in which Pneumonia was found, that disease had advanced to its second stage, that of solidification, in seventeen. The lungs, in the eleven remaining instances, exhibiting the pathological characters of the first stage of Pneumonia, together with evidences of bronchitis, or of pleuritis, as shown by the inflamed condition of the bronchial mucous membrane, and by the effusion of recent lymph, or of serum, into the cavities of the pleuræ. There is one remarkable circumstance connected with the form of Pneumonia now under consideration; namely, the relative frequency of the occurrence of the disease in one or other lung, or in both, at the same time. Andral, Chomel, Forbes, and all pathologists, agree that in ordinary sthenic idiopathic Pneumonia, the right lung is most frequently affected, the left next, and, lastly, both organs conjointly. Now, on examining the twenty-eight cases already mentioned, it will be found that the right lung alone was affected but three times, the left lung alone also only three times, and both lungs together,—not, however, to the same degree,—in no less than twenty-two cases. The reason of this remarkable deviation from the

law, that appears to govern the occurrence of sthenic idiopathic Pneumonia, may be explained by the peculiar nature of the causes that predispose to and excite the congestive variety of the disease.

In two cases only were the upper lobes found inflamed. One of these was that of a child, who died of phthisis, with intercurrent Pneumonia; the other, that of an old woman, who had been operated on for strangulated hernia. In one case there was found lobular hepatization, the subject being a child twelve years of age, who died with phlegmonous erysipelas of the arm.

That form of inflammation of the lungs which occurs as a consequence of surgical operations and injuries is occasionally of a sthenic, but much more frequently of an asthenic or congestive character, corresponding to the variety of the disease that has received, from various authors, the names of putrid, malignant, congestive, erysipelatous, asthenic, typhoid, and hypostatic Pneumonia, and which is not an unusual sequela of continued fever, and of other affections, attended by much debility of the system generally, or by a vitiated condition of the fluids. I am unable to give the precise ratio of the comparative frequency of the occurrence of these two forms of the disease, the sthenic and the congestive; but I can state that the latter is by very much the most common, being found in by far the larger proportion of those who die of Pneumonia in the surgical wards of a hospital; the disease assuming but occasionally an active character, and that only

in the young and robust, in whom the powers of the system have not been lowered by a long residence in a hospital, or by the depressing effects of irritative fever and profuse discharges.

The essential nature of this congestive form of inflammation of the lung that occurs in surgical cases appears to be the same as that of the so-called typhoid Pneumonia, which has been proved by the observations of Dr. C. J. B. Williams, and of Dr. Hudson, to be essentially a Pneumonia, complicated by a superadded passive congestion. The blood, in this disease, stagnates in the lungs, under the influence of certain causes, and a degree of irritation being at the same time set up, some inflammatory action is excited in the already congested part, which, however, is of a passive type, not being characterized by the formation of those secondary products that are the usual consequences of active, sthenic inflammation. This stagnation of the blood in particular organs is attributed by Dr. Williams either to an altered condition of that fluid, or of the affected capillaries, or of both.

On examining the condition of the system induced by the irritative fever, consequent upon operations and injuries, more particularly when the subjects of them have been depressed by profuse discharges, or by the vitiated air of hospitals, and who have thus been rendered peculiarly liable to the occurrence of congestive Pneumonia, we shall find that it very closely resembles that state of depression in which the typhoid form of the disease is apt to supervene.

The anatomical characters of the two forms of Pneumonia are also identical, the lungs being in both cases, in the first stage, of a livid violet, or purple mottled colour, heavy, compact but friable, readily breaking down into a grumous pulp, and scarcely crepitating when pressed upon, but exuding a very considerable quantity of thin, spumous, frothy fluid. When the disease has advanced to the second stage, the tissue of the organ is more dense, but still very friable; it does not crepitate, but sinks in water, and when cut into, the sides of the incision will be found to present a smooth, uniform, black aspect, not mottled, as in the sthenic form of the disease, but presenting those characters that Dr. Williams has described as being peculiar to "Inter-vesicular" Pneumonia, and which MM. Hourmann and Déchambre have shown to be very common in that variety of the disease which occurs in the aged. On examining the cut surface attentively, we shall find that this smooth, dark aspect, presented by the sides of the incision, is attributable to a highly gorged state of the capillary network of the lungs compressing the air-cells, which are not, as in the sthenic form of the disease, filled with a viscid secretion, but are either empty, or else contain, at most, a thin serous fluid, that appears to have exuded from the surrounding congested and inflamed tissues.

On inquiring into the causes that give rise to congestive Pneumonia, it will be found that, independently of those circumstances that occasion idio-

pathic sthenic inflammation of the lungs, such as exposure to cold, wet, &c., there are a set of causes that peculiarly dispose to the occurrence of this disease, after surgical operations and injuries. These are divisible into two classes, both of which, however, must concur for the production of the variety of the disease now under consideration.

1st. In the first class are comprised those causes that act mechanically, by giving rise to a congestive condition of the posterior part of the lungs, as the recumbent position long continued.

2nd. In the second class, those that act by diminishing the functional activity of the nervous system, as profuse suppuration, long confinement in hospitals, and irritative fevers, more particularly when assuming a typhoid type, and when occurring in individuals advanced in life.

Age may also perhaps exercise some little influence on the production of congestive Pneumonia, which would probably be more marked than it is, were it possible to separate the few cases of sthenic from those of the congestive form of the disease. On taking, however, the aggregate of the two varieties of Pneumonia, it will be found that the average age of the patients in whom inflammation of the lungs was found, was 44·2 years.
 Of the doubtful cases 39·4 —
 Of the cases in which no inflammation
 or congestion of those organs oc-
 curred 35·9 —
 So that the average difference in age between those

cases in which Pneumonia occurred, and those in which it did not, amounted to 8·3 years.

That the recumbent position, even when long continued, is not of itself sufficient, in an otherwise healthy person, to give rise to a congested state of the posterior part of the lungs, is evident, as we do not find this effect produced in those who preserve this posture, as in some modes of treatment for spinal distortion, for months, and even years. It is, therefore, necessary that the depressing causes of disease that have already been enumerated should co-operate with it, in order to give rise to congestion, even in so vascular and spongy an organ as the lung; and this we find to be the case. If we take the period that the patients mentioned in the Table lived in the hospital, as equivalent to the time that they maintained the recumbent posture, which, from the nature of the operations and injuries under which they suffered, in most of the cases, we are justified in doing, we shall find, as will immediately be shown, that those who died of Pneumonia preserved this position, on an average, for a much longer period than any others, except the phthisical patients.

Although the circumstances that have just been mentioned tend, to a certain degree, to expose the patient to the occurrence of congestive Pneumonia, yet, without doubt, the most active agent in the production of this disease is a diminution in the functional activity of the nervous system, whether this be the consequence of the irritation of opera-

tions and injuries, of long-continued and profuse discharges, or of confinement in the comparatively impure air of hospitals,—all of which depressing influences are, in most cases, in action at the same time. That these circumstances operate in predisposing to the occurrence of the disease under consideration, may be seen by examining the Table appended to this paper, by which it will be found that all those who died of this affection had been the subjects of such operations or injuries as are necessarily followed, either by much irritative fever, or by very profuse and wasting suppuration; whereas those in whom the lungs were found healthy, died, with but one exception, before there was time either for suppuration to have taken place or for irritative fever to have been set up.

That a long residence in a hospital, in conjunction with other depressing causes of disease, and the maintenance of the recumbent position, will tend to dispose to the occurrence of congestive inflammation of the lungs, may be seen by the annexed Table,* on examining which it will be found that of the twenty-eight cases of Pneumonia, only one died before the fourth day; whereas, of the thirteen cases in which the lungs were found healthy, no less than eleven died before that period—before, indeed, any inflammatory condition of these organs

* In the second class of cases, a note of the length of time the patients lived in hospital was kept only in ten, and in the fourth class in thirteen cases, instead of in eleven and fourteen respectively.

could be expected to have manifested itself ; and of these eleven, no less than eight died on the first day, or, in fact, were brought to the hospital moribund. Of the remaining two cases, one died on the fifth day, and the other on the forty-fourth day, after being operated upon for strangulated inguinal hernia, a remarkable exception to the rest of the series.

TABLE SHOWING THE LENGTH OF TIME THAT ACCIDENTAL PATIENTS LIVED IN HOSPITAL, ETC.

When Patient died.	1st Class. Cases of Pneumonia.	2nd Class. Doubtful Cases.	3rd Class. Lungs diseased.	4th Class. Lungs healthy.
1st day.	0	1	1	8
2nd do.	0	1	1	0
3rd do.	1	0	2	3
4th do.	5	1	0	0
5th do.	2	2	0	1
6th do.	1	0	0	0
2nd week.	9	1	1	0
3rd do.	0	2	0	0
4th do.	2	1	1	0
5th do.	2	1	1	0
6th do.	2	0	0	0
7th do.	1	0	0	1
8th do.	0	0	1	0
9th do.	2	0	0	0
11th do.	0	0	1	0
14th do.	1	0	0	0
TOTAL .	28	10	9	13

The average time, then, that the patients lived after admission into the hospital was as follows :—
 Cases in which the lungs were inflamed . 20·7 days.
 Doubtful cases 12·3 —
 Cases in which the lungs were found
 diseased, but not inflamed 22·7 —
 Cases in which the lungs were healthy . 1·6 —

The reason of the high average of the time that those patients lived in whom the lungs were found diseased, but not inflamed, is, that of ten in that class, three died of phthisis on the thirtieth, fifty-fourth, and seventieth day respectively, after admission into the hospital. If these cases are excepted, we shall find that the remainder lived, on an average, only 8·4 days.

It would be occupying too much of the Society's time, were I to enter, at any length, upon a rationale of the operation of those causes that occasion a congested state of the lungs by lowering the energies of the nervous system. It can, however, easily be understood how the lungs, having once become engorged, a degree of inflammatory action, which, from the condition of the patient, must necessarily be of a low type, may be set up in an organ already disposed to its occurrence by the existence of an anormal quantity of blood in its vessels, more particularly in patients who have been rendered highly irritable by traumatic fever and profuse discharges.

The occurrence of congestive Pneumonia in a patient already suffering from the depressing effects of a severe injury or operation, is, of course, a complication greatly to be dreaded, and one which it has been shown is much more frequent than is usually believed. It is a complication against which it is necessary to guard as strictly as possible, both on account of the extreme danger that usually attends it, as well as on account of the disease assuming, in many instances, a latent character, the rational symptoms

being usually in a great measure, and sometimes in its earlier stages entirely, wanting; and its presence being only ascertainable, with certainty, by a carefully-conducted physical examination of the chest; which, as it is the posterior part of the lungs that are always affected, it is exceedingly difficult, in the majority of cases, to institute; it being obviously impossible to place a patient suffering from the effects of a severe injury or capital operation, in such a posture as to enable the posterior part of his chest to be examined by the ear. When, however, this can be done, the usual physical signs that occur in typhoid Pneumonia will be found in this variety of the disease, namely, absence of the respiratory murmur, dullness on percussion, with sibilous, and large mucous rhonchus, and bronchial respiration. The crepitation being either entirely absent, or, when present, existing but for a short space of time, being, as Dr. Hudson observes with regard to typhoid Pneumonia, quickly lost by an accumulation of blood in the surrounding vessels compressing the air-cells.

As the symptoms of congestive Pneumonia are frequently rendered latent by the low condition of the patient, or masked by the existence of some severe injury that chiefly attracts the surgeon's attention, it behoves him to watch, with the utmost care, any appearance, however slight, of the super-vention of a chest affection. He must not wait for the marked symptoms of active acute Pneumonia to show themselves; but if the breathing be at all

hurried and shallow, if there be any dyspnœa, lividity of the lips, and occasional short hacking cough, with thirst, increased heat of skin, and rapidity of the pulse, he should immediately be on his guard, and, if possible, examine the chest with the ear, in order to ascertain if there be any of the well-marked and easily-recognized signs of Pneumonia present, and if so, to have recourse to as active and prompt measures as the circumstances of the case will admit of.

As this form of Pneumonia has usually existed for some time before the surgeon's attention is directed to it on account of the obscurity of its early symptoms, it becomes exceedingly difficult to determine the precise period at which the disease commences. In some instances, it is probable that death supervenes very rapidly on its occurrence; but in other cases, more particularly when solidification of the tissue of the lung has taken place, which happened in seventeen out of the twenty-eight cases of the first class, it must have existed for a considerably longer period, as time is required for those changes to take place, however imperfectly, that constitute the second stage of Pneumonia.

On the subject of treatment I have but a few words to add. If the views that have been taken, in this paper, of the causes of that form of Pneumonia which occurs after surgical operations and injuries, be correct, it will be more consistent with a rational therapeia to aim at remedying that condi-

tion of the nervous system which has been the immediate cause of the diseased state of the lungs, and to prevent the congestion of these organs from increasing, by changing the position of the patient, when practicable, from the recumbent to the sitting posture, than to direct our efforts immediately to these organs themselves. With this object in view, the energies of the nervous system should be supported and increased by such stimuli and tonics as the patient may be able to bear ; as, for instance, carbonate of ammonia, decoction of senega, quinine, and, in extreme cases of depression, wine and brandy. The inflammatory condition of the lungs should, at the same time, be combated by means of calomel, combined with minute doses of opium, and by counter-irritation in the form of dry-cupping, blistering, stimulating embrocations, or turpentine epithems. Blood-letting in any form, whether general or local, is not only contra-indicated by the already enfeebled condition of the patient, but would, to say the least, be perfectly useless ; for we might, as Dr. Williams justly observes in speaking of typhoid Pneumonia, stop the action of the heart by this means before we could unload the congested condition of the lungs. This remark applies, if possible, with more force to the treatment of the surgical form of the disease, as the patient has, before the supervention of the pulmonary affection, already been, in most instances, much lowered by profuse discharges and irritative fever. Upon the whole, however, the curative treatment of this form of

Pneumonia is but little satisfactory, the best-directed efforts being but seldom crowned with success.

The prophylactic measures that must be had recourse to, in order to prevent the occurrence of the disease in question, are obvious. Patients who have suffered much from the consequences of capital operations and severe injuries, or who are worn out by irritative fever and profuse discharges, should be placed in a room or ward that is as freely ventilated as possible, care being, however, taken to prevent draughts of cold air from playing upon them; they should be warmly clothed, so as to promote, as much as possible, the freedom of the circulation, and all depressing causes of disease must be carefully removed. The supine position should also be occasionally changed for the lateral one, or, if the patient have sufficient strength, he may be seated partly upright. And I may take this opportunity of stating, that the starched or dextrinated bandage, the immovable apparatus, as it is called, may here be of most essential service, by enabling the surgeon to place patients, with injuries of the lower limbs, in such a position, and in such an atmosphere, as shall remove two of the most active predisposing causes of the form of Pneumonia now under consideration, namely, the recumbent position, and the comparatively impure air of a hospital-ward or sick-room.

A TABLE showing the State of the Lungs in 62 Cases of Death from Operations, Injuries, and Surgical Diseases.

Name.	Age.	Nature of the Case.	When Autopsy made.	State of the Lungs.	Date of the Death.
J. W.	—	Indolent ulcer of leg.	Hours. —	Hepaticization of lower lobe of left lung.	12th Day.
W. C.	45	Wound of thumb; inflammation of the absorbents of the left arm.	20	Pneumonia of the posterior inferior lobes of both lungs in the first and second stages.	4th
W. H.	38	Fracture of 5th and 6th cervical vertebræ.	—	Pneumonia of the inferior part of the right lung in the first and second stages.	8th
J. B.	68	Strangulated inguinal hernia; left side; operation.	—	Pneumonia in the first stage of the upper two-thirds of the right lung, with hepaticization of the lower third; pneumonia in the first stage of the lower third of the left lung.	23rd
C. C.	17	Laceration of scalp; fracture of skull; injury of brain.	26½	Pneumonia in the first stage of the lower third of the left lung; hepaticization of the lower two-thirds of the right lung.	4th
J. T.	40	Blow on abdomen; rupture of ilium; peritonitis.	20	Pneumonia in the first stage of the posterior inferior part of both lungs, but chiefly the right.	5th
W. P.	67	Fracture of the base of the skull; injury of the brain.	30	Hepaticization of the posterior inferior part of both lungs, but chiefly of the right.	4th
H. G.	30	Extensive laceration of the scalp; comminuted fracture of the left arm.	38	Pneumonia of the inferior part of both lungs in the first and second stages.	26th
J. D.	57	Fracture of right femur; apoplexy.	40	Pneumonia of the inferior part of both lungs in the first stage, but chiefly the right.	35th
J. F.	34	Contusion of right leg; inflammation of absorbents.	27	Hepaticization of posterior inferior part of both lungs.	31st
J. N.	46	Compound fracture of the right leg; amputation.	30	Pneumonia in first stage of the inferior posterior part of both lungs, but chiefly the left.	11th
L. T.	18	Disease of right knee; amputation.	24	Upper lobes of both lungs tubercular; lower lobes, pneumonia in first stage.	56th
t. T.	12	Phlegmonous erysipelas of the left arm.	30	Hepaticization of posterior inferior part of both lungs; lobular hepaticization of anterior parts.	11th

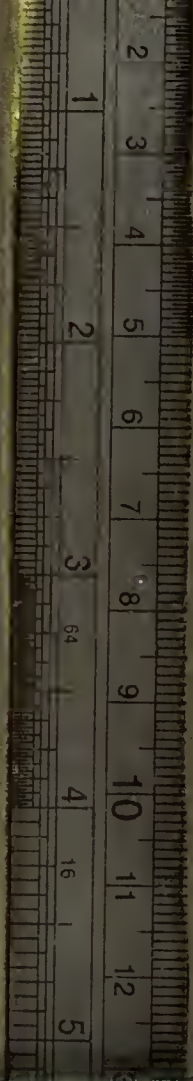
Name.	Age.	Nature of the Case.	When Autopsy made.	State of the Lungs.	Date of the Death.
			Hours.		
T. C.	54	Laceration of scalp, gout, &c.	13	Hepatization of the posterior inferior part of the left lung; bronchitis.	14th day.
S. I.	30	Phlebitis of right arm from punctured wound.	20	Hepatization of lower lobes of both lungs.	11th
E. F.	20	Inflammation of knee-joint; absorption of pus.	36	Both lungs hepatized posteriorly, with slight congestion.	6th
W. H.	60	Fraeture of ribs and scapula.	24	Left lung partly hepatized, and in a state of congestive pneumonia, posteriorly; right lung the same. Right pleura contained about 6 oz. of turbid serum—its whole surface was very vascular, and covered to a considerable extent with a film of soft yellowish semi-transparent lymph; left pleura vascular, but less so than the right.	4th
J. D.	70	Ineised wound of throat; peritonitis.	24	Congestive pneumonia in first stage posteriorly of both lungs; mucous membrane of bronchi inflamed, with much frothy mucus.	3rd
— B.	60	Lithotomy.	8	Congestive pneumonia in first stage in both lungs in a marked degree; mucous membrane of bronchi much inflamed, with much frothy mucus.	8th
T. P.	48	Compound fracture of leg.	24	Congestive pneumonia in first stage in both lungs posteriorly; in left pleura 3 pints of turbid serum.	38th
W. L.	68	Gangrena Senilis.	21	Pleuræ contained recent lymph; lungs, posteriorly congestive pneumonia in first stage; anteriorly emphysematous; bronchi contained much frothy mucus; lining membrane reddened.	38th
J. H.	64	Disease of wrist-joint.	42	Right pleura contained 2 or 3 oz. of turbid serum; left pleura about 4 oz.; lungs, emphysematous anteriorly; posteriorly congestive pneumonia in first stage.	96th
E. S.	38	Phlegmonous erysipelas of arm.	19	Right pleura contained 6 or 8 oz. of reddish turbid serum, with ramiform congestion and lymph effused; right lung posteriorly hepatized, with congestive pneumonia; left lung healthy.	5th
C. G.	39	Tumour of lower jaw; operation; erysipelas.	—	Right lung hepatized; left lung healthy.	10th

Name.	Age.	Nature of the Case.	When Autopsy made.	State of the Lungs.	Date of the Death.
M. W.	38	Tumour of knee; amputation.	Hours. 26	Congestive pneumonia of left lung posteriorly; right lung compressed by false membranes, and a large collection of serum.	59th day.
J. McG.	67	Compound fracture of left leg.	40	Left lung uniformly congested; emphysematous at some points; right lung congested and softened, but not to the same extent or degree.	5th
M. B.	60	Fracture of neck of the femur.	22	Hepaticization of posterior part of both lungs; scattered tubercles in the upper lobes; bronchial membrane inflamed, with much frothy mucus.	4th
C. L.	8	Scrofula.	16	Left pleura, 3 oz. yellow fluid; old and recent adhesions. Right pleura, no fluid; old adhesions, with recent gelatinous lymph. Right lung hepaticized with tubercles. Left lung, congestive pneumonia in first stage throughout, with hepaticization in parts, and scattered tubercles.	49th
W. R.	37	Psoas abscess, with caries of bodies of lumbar vertebrae.	—	Congestion (?) of inferior posterior parts of both lungs.	25th
W. G.	20	Secondary syphilis; disease of kidneys, &c.	36	Congestion (?) of inferior posterior parts of both lungs.	19th
F. E.	59	Fracture of right patella.	26	Congestion (?) of inferior posterior parts of both lungs.	35th
S. J.	70	Strangulated inguinal hernia; right side; operation.	24	Congestion (?) of inferior posterior parts of both lungs.	2nd
T. J.	37	Punctured fracture of cranium.	17	Congestion (?) of posterior inferior parts of both lungs.	4th
W. W.	34	Fracture of the body of 6th cervical vertebra.	30	Congestion (?) of posterior inferior parts of both lungs.	—
J. T.	50	Abscess of the back.	26	Congestion (?) of posterior inferior parts of both lungs.	16th
J. G.	51	Dislocation of 5th cervical vertebra forwards without fracture.	10	Congestion (?) of posterior inferior parts of both lungs; anteriorly emphysema, with small spots of effused blood.	1st
J. H.	25		—	Congestion (?) of posterior inferior parts of both lungs.	5th

Name.	Age.	Nature of the Case.	When Autopsy made.	State of the Lungs.	Date of the Death.
			Hours.		
M. W.	49	Wound of brachial artery; apoplexy.	17	Congestion (?) of posterior inferior parts of both lungs.	5th
J. R.	2	Scald of glottis; tracheotomy.	—	Died asphyxiated; very dark congestion of both lungs.	11th
W. M.	54	Contused elbow; delirium cum tremore: secondary abscesses.	—	General bronchitis.	28th
S. E.	16	Scrofulous disease of ankle-joint: amputation.	—	Tubercles and vomicae in the upper lobes of both lungs.	54th
J. M.	48	Cut throat.	48	Extensive bronchitis.	3rd
W. R.	2	Scald of glottis; tracheotomy.	29	Bronchitis of larger tubes.	2nd
S. R.	24	Œdema Glottidis; tracheotomy.	10	Bronchitis; emphysema.	14th
J. C.	40	Laceration of liver; displaced dorsal vertebræ.	26	Lungs gorged with fluid blood.	6 hours.
W. S.	28	Punctured wound of axilla; severe contusion of left shoulder; phlebitis.	15	Œdema of posterior inferior parts of both lungs.	3rd day.
G. W.	15	Disease of hip-joint.	—	Tubercles in upper lobes of lungs.	70th
S. B.	47	Sloughing ulcer of the neck.	29	Tubercles in right lung.	30th
F. F.	40	Amputation of the thumb; erysipelas.	—	Lungs healthy.	—
C. M.	11	Punctured wound of abdomen; peritonitis.	—	Lungs healthy.	5th
M. D.	40	Fracture of pubes and skull.	30	Lungs healthy.	1st
J. T.	50	Fracture of cranium; injury of brain.	20	Lungs healthy.	1st
J. C.	45	Laceration of spleen and kidney; fracture of the ribs.	70	Lungs healthy.	3rd
—	35	Fracture of skull; injury of brain.	22	Lungs healthy.	1st
D. L.	40	Laceration of liver.	26	Lungs healthy.	3rd

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Name.	Age.	Nature of the Case.	When Autopsy made.	State of the Lungs.	Date of the Death.
C. W.	45	Fracture of skull; injury of brain.	Hours. 17	Lungs healthy.	4 hours
W. T.	62	Compound fracture of femur; amputation.	23	Lungs healthy.	3rd day
E. W.	75	Fracture of neck of femur; apoplexy.	—	Lungs healthy.	1st
G. D.	—	Strangulated femoral hernia; operation.	16	Lungs healthy.	44 days.
—	—	Effusion of blood between <i>dura mater</i> and skull.	—	Lungs healthy.	a few hrs
J. L.	37	Fracture of pelvis; injury of the bladder and rectum.	16	Lungs healthy.	4½ hours
T. E.	1½	Fracture of skull; injury of brain.	50	Lungs healthy.	13th



TABLE(S)
RUN INTO
GUTTER

